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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/933,832	08/22/2001	Nobuo Matsui	Q65917	7288

7590

11/24/2003

SUGHRUE, MION, ZINN, MACPEAK & SEAS
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037

EXAMINER

GOFF II, JOHN L

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 11/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/933,832

Applicant(s)

MATSUI ET AL.

Examiner

John L. Goff

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 7-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 7-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. This action is in response to Amendment A filed on 9/12/03.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
4. Claims 1, 2, 9, 11, 13, 15, and 17 are rejected under 35 U.S.C. 103(a) as obvious over Sisson (U.S. Patent 2,713,379) in view of Brown (U.S. Patent 2,519,107).

Sisson is directed to bonding two parts using a magnetic jig. Sisson teaches two parts made of non-metallic materials. Sisson teaches mating the two parts via an uncured adhesive layer. Sisson teaches the adhesive layer comprises a thermosetting film, i.e. sheet. Sisson teaches placing the mated portion of the two parts between a pressing magnet jig and a pressure-receiving, soft-magnetic jig such that the adhesive is cured under pressure and a bond between the two parts is formed (Figures 2 and 3 and Column 1, lines 15-19 and Column 2, lines 28-31,

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44-50, and 68-70 and Column 3, lines 3-9 and 17-22). Sisson is silent as to a specific teaching of attaching cushioning members to the surfaces of the magnetic jig in contact with the two parts. It would have been obvious to one of ordinary skill in the art at the time the invention was made to attach cushioning members to the magnetic jig taught by Sisson as it was well known in the art to use cushioning members to prevent the jig from scratching, deforming, or otherwise damaging the parts as shown for example by Brown.

Regarding claim 9, Sisson is silent as to the pressing magnet including a handle. It is noted that the magnet jig taught by Sisson applies the magnetic force, i.e. pressure, while the soft-magnetic jig receives the magnetic force. However, the orientation of the magnet jig and soft-magnetic jig taught by Sisson differs from that shown by applicant in that the magnet jig taught by Sisson is arranged below the soft-magnetic jig. One of ordinary skill in the art at the time the invention was made would have readily appreciated modifying Sisson such that the soft-magnetic jig is arranged below the magnet jig wherein the magnet jig would have included a holding member such as for example a handle, as the pressing force applied would have been identical whether the magnet jig was above or below the assembly.

Regarding claims 11, 13, 15, and 17, Sisson does not specifically recite the claimed bonding conditions, i.e. the applied pressure, temperature, cooling rate, etc. However, the general technique taught by Sisson would have been useful to bond a variety of parts using any number of bonding conditions wherein it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the bonding conditions in Sisson as modified by Brown as a function of the quality of bond produced as doing so would have required nothing more than ordinary skill and routine experimentation.

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Brown is directed to cushioning devices applied to surfaces of clamps, clamping brackets, or the like. Brown teaches the cushioning devices are made from synthetic rubber, Neoprene, etc. Brown further teaches the cushioning devices prevent the surface of the work to which the clamps are attached from becoming scratched, deformed, or otherwise damaged (Figures 1-4 and Column 1, lines 1-11 and Column 2, lines 13-19, 32-37, and 44-48 and Column 3, lines 3-11).

5. Claims 7, 10, 12, 14, 16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sisson in view of the admitted prior art (Specification pages 1 and 2 and the English abstract of JP 10-264257).

Sisson is directed to bonding two parts using a magnetic jig. Sisson teaches two parts made of non-metallic materials. Sisson teaches mating the two parts via an uncured adhesive layer. Sisson teaches the adhesive layer comprises a thermosetting film, i.e. sheet. Sisson teaches placing the mated portion of the two parts between a pressing magnet jig and a pressure-receiving, soft-magnetic jig such that the adhesive is cured under pressure and a bond between the two parts is formed (Figures 2 and 3 and Column 1, lines 15-19 and Column 2, lines 28-31, 44-50, and 68-70 and Column 3, lines 3-9 and 17-22). Sisson is silent as to using the magnetic jig to bond two parts made of fiber-reinforced composite material useful for making an aircraft fuselage, i.e. half-cylindrical skin members. It is noted Sisson is generally directed to the bonding of any two parts including non-magnetic parts such that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the magnetic jig taught by Sisson to bond two parts made of fiber-reinforced composite material useful for making an aircraft fuselage (i.e. half-cylindrical skin members) as it was known in the art to bond these

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parts using a jig as shown by the admitted prior art and only the expected results would be achieved.

Regarding claim 10, Sisson is silent as to the pressing magnet including a handle. It is noted that the magnet jig taught by Sisson applies the magnetic force, i.e. pressure, while the soft-magnetic jig receives the magnetic force. However, the orientation of the magnet jig and soft-magnetic jig taught by Sisson differs from that shown by applicant in that the magnet jig taught by Sisson is arranged below the soft-magnetic jig. One of ordinary skill in the art at the time the invention was made would have readily appreciated modifying Sisson such that the soft-magnetic jig is arranged below the magnet jig wherein the magnet jig would have included a holding member such as for example a handle, as the pressing force applied would have been identical whether the magnet jig was above or below the assembly.

Regarding claims 12, 14, 16, and 18, Sisson does not specifically recite the claimed bonding conditions, i.e. the applied pressure, temperature, cooling rate, etc. However, the general technique taught by Sisson would have been useful to bond a variety of parts using any number of bonding conditions wherein it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the bonding conditions in Sisson as modified by Brown as a function of the quality of bond produced as doing so would have required nothing more than ordinary skill and routine experimentation.

The admitted prior art is directed to bonding two parts together such as two fiber-reinforced composite materials. The admitted prior art teaches using the bonded fiber-reinforced composite materials to reduce the weight of transport vehicles including aircraft wherein the bonded fiber-reinforced composite materials comprise the main constituent members, i.e. the

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fuselage/skin/half-cylindrical members, of the vehicles (Specification page 1, lines 8-12). The admitted prior art teaches the parts are bonded through a method comprising applying an uncured thermosetting adhesive prepreg, i.e. sheet, to the mating portion of the parts, placing the mated portion in a jig, and curing the adhesive under pressure to form a bond between the two parts (Specification page 2, lines 4-8 and the English abstract of JP 10-264257).

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sisson and the admitted prior art as applied above in paragraph 5, and further in view of Brown.

Sisson and the admitted prior art are silent as to a specific teaching of attaching cushioning members to the surfaces of the magnetic jig in contact with the two parts. It would have been obvious to one of ordinary skill in the art at the time the invention was made to attach cushioning members to the magnetic jig taught by Sisson as modified by the admitted prior art as it was well known in the art to use cushioning members to prevent the jig from scratching, deforming, or otherwise damaging the parts as shown for example by Brown.

Brown is directed to cushioning devices applied to surfaces of clamps, clamping brackets, or the like. Brown teaches the cushioning devices are made from synthetic rubber, Neoprene, etc. Brown further teaches the cushioning devices prevent the surface of the work to which the clamps are attached from becoming scratched, deformed, or otherwise damaged (Figures 1-4 and Column 1, lines 1-11 and Column 2, lines 13-19, 32-37, and 44-48 and Column 3, lines 3-11).

7. Claims 7, 10, 12, 14, 16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Sisson.

The admitted prior art is directed to bonding two parts together such as two fiber-reinforced composite materials. The admitted prior art teaches using the bonded fiber-reinforced

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composite materials to reduce the weight of transport vehicles including aircraft wherein the bonded fiber-reinforced composite materials comprise the main constituent members, i.e. the fuselage/skin/half-cylindrical members, of the vehicles (Specification page 1, lines 8-12). The admitted prior art teaches the parts are bonded through a method comprising applying an uncured thermosetting adhesive prepreg, i.e. sheet, to the mating portion of the parts, placing the mated portion in a jig, and curing the adhesive under pressure to form a bond between the two parts (Specification page 2, lines 4-8 and the English abstract of JP 10-264257). It would have been obvious to one of ordinary skill in the art at the time the invention was made to bond the two parts taught by the admitted prior art using a magnetic jig such as the magnetic jig shown for example by Sisson as it was well known in the art to bond two parts using a magnetic jig and only the expected results would be achieved.

Regarding claim 10, Sisson is silent as to the pressing magnet including a handle. It is noted that the magnet jig taught by Sisson applies the magnetic force, i.e. pressure, while the soft-magnetic jig receives the magnetic force. However, the orientation of the magnet jig and soft-magnetic jig taught by Sisson differs from that shown by applicant in that the magnet jig taught by Sisson is arranged below the soft-magnetic jig. One of ordinary skill in the art at the time the invention was made would have readily appreciated modifying the admitted prior art as modified by Sisson such that the soft-magnetic jig is arranged below the magnet jig wherein the magnet jig would have included a holding member such as for example a handle, as the pressing force applied would have been identical whether the magnet jig was above or below the assembly.

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Regarding claims 12, 14, 16, and 18, Sisson does not specifically recite the claimed bonding conditions, i.e. the applied pressure, temperature, cooling rate, etc. However, the general technique taught by Sisson would have been useful to bond a variety of parts using any number of bonding conditions wherein it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the bonding conditions in the admitted prior art as modified by Sisson as a function of the quality of bond produced as doing so would have required nothing more than ordinary skill and routine experimentation.

Sisson is directed to bonding two parts using a magnetic jig. Sisson teaches two parts made of non-metallic materials. Sisson teaches mating the two parts via an uncured adhesive layer. Sisson teaches the adhesive layer comprises a thermosetting film, i.e. sheet. Sisson teaches placing the mated portion of the two parts between a pressing magnet jig and a pressure-receiving, soft-magnetic jig such that the adhesive is cured under pressure and a bond between the two parts is formed (Figures 2 and 3 and Column 1, lines 15-19 and Column 2, lines 28-31, 44-50, and 68-70 and Column 3, lines 3-9 and 17-22).

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art and Sisson as applied above in paragraph 7, and further in view of Brown.

The admitted prior art and Sisson teach all of the limitations in claim 8 as applied above except for a teaching of attaching cushioning members to the surfaces of the magnetic jig in contact with the two parts. It would have been obvious to one of ordinary skill in the art at the time the invention was made to attach cushioning members to the magnetic jig taught by the admitted prior art as modified by Sisson as it was well known in the art to use cushioning

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members to prevent the jig from scratching, deforming, or otherwise damaging the parts as shown for example by Brown.

Brown is directed to cushioning devices applied to surfaces of clamps, clamping brackets, or the like. Brown teaches the cushioning devices are made from synthetic rubber, Neoprene, etc. Brown further teaches the cushioning devices prevent the surface of the work to which the clamps are attached from becoming scratched, deformed, or otherwise damaged (Figures 1-4 and Column 1, lines 1-11 and Column 2, lines 13-19, 32-37, and 44-48 and Column 3, lines 3-11).

Response to Arguments

9. Applicant's arguments filed 9/12/03 have been fully considered but they are not persuasive. Applicant argues "Brown thus fails to teach or suggest any cushioning member which is capable of putting bonding surfaces into uniform contact with an adhesive sheet". It is noted Sisson as modified by Brown teaches/suggests a cushioning member interposed between a pressing surface of a pressing magnet jig and the outside surfaces of mated non-magnetic members such that the claimed limitations are met. Furthermore, as to applicants argument that Brown does not teach a cushioning member capable of putting bonding surfaces into uniform contact, it is noted the claims are not commensurate in scope with this argument. Applicant further argues "Accordingly, Applicants submit that one of ordinary skill in the art referring to JP '257 and the admitted state of the prior art in the specification at pages 1/2, all being silent regarding a pair of half-cylindrical skin members made of a fiber-reinforced composite material as the non-magnetic members for constituting a fuselage of aircraft, would have no basis to reach the invention as recited in claim 7, and accordingly, claim 7 is not rendered obvious by the prior

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art relied upon by the Examiner". As set forth above, the admitted prior art teaches using bonded fiber-reinforced composite materials to reduce the weight of transport vehicles including aircraft wherein the bonded fiber-reinforced composite materials comprise the main constituent members, i.e. the fuselage/skin/half-cylindrical members, of the vehicles (Page 1, lines 8-12). Furthermore, the admitted prior art teaches placing the members along with an uncured adhesive prepreg in a jig wherein the jig applies pressure to bond the members together (Page 2, lines 4-8). Thus, in view of the above (i.e. the admitted prior art) it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the magnetic jig taught by Sisson to bond two parts made of fiber-reinforced composite material useful for making an aircraft fuselage as it was known in the art to bond these parts using a jig as shown by the admitted prior art wherein only the expected results would be achieved. Additionally, it would have been obvious to one of ordinary skill in the art at the time the invention was made to bond the two parts made of fiber-reinforced composite material taught by the admitted prior art using a magnetic jig such as the magnetic jig shown for example by Sisson as it was well known in the art to bond the two parts using a jig and only the expected results would be achieved.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is **703-305-7481** (after December 2003 the telephone number will be 571-272-1216). The examiner can normally be reached on M-Th (8 - 5) and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 703-308-3853. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



John L. Goff



JEFF H. AFTERGUT
PRIMARY EXAMINER
GROUP 1300